

REMARKS

The October 29, 2004 Official Action has been carefully considered. In view of the present amendment the Declaration of J. Michael Ramsey, and Terminal Disclaimer submitted herewith and these remarks, favorable reconsideration and allowance of this application are respectfully requested.

At the outset, it is noted that a shortened statutory response period of three (3) months was set in the October 29, 2004 Official Action. Accordingly, the initial response period is due to expire January 31, 2005, as January 29, 2005 fell on a Saturday. This amendment and request for reconsideration is being filed before the expiration of the initial response period.

In the October 29, 2004 Official Action, claim 1 stands rejected as allegedly anticipated by Siler et al. (Anal. Chem., 65: 1481-88 (1993)).

Claims 2-4 have been rejected under 35 U.S.C. §102(b) as allegedly anticipated by Pentoney et al. (Anal. Chem., 60: 2625-29 (1988)).

Claims 1-5 have been rejected under 35 U.S.C. §102(a) as allegedly anticipated by Jacobson et al. (Anal. Chem., 66: 1107-13 (1994)).

Claims 2-5 have been further rejected under 35 U.S.C. §103(a) as allegedly unpatentable based on the combined disclosures of U.S. Patent 5,110,431 to Moring and the above-cited Pentoney et al. reference. The Examiner acknowledges that the Moring reference does not disclose flow into the first channel section through the second side channel concomitant with the flow through the first side channel. Nevertheless, the Examiner contends, based on the above-cited Pentoney et al. reference, that it would have been obvious to one having ordinary skill in the art at the time the present invention was made to modify the method of the Moring reference so as to introduce

additional reagents to the reactor by providing flow through both side channels of the cross-intersection, as purportedly suggested by the Pentoney et al. reference, as the Moring reference is said to disclose such flexibility of operation and the possible requirement of additional reagents.

Claim 1 also stands rejected for obviousness-type double patenting based on claim 15 of applicants' U.S. Patent 6,001,229. Claims 2-4 have been further rejected for obviousness-type double patenting rejection based on claim 14 of the above-mentioned '229 patent. Claim 5 has also been rejected for obviousness-type double patenting rejection based on claim 14 of the above-mentioned '229 patent considered in view of the above-cited Jacobson et al. reference. Claims 1-4 have been further rejected for obviousness-type double patenting rejection based on claim 6 of applicants' U.S. Patent 6,342,142. Claim 5 has also been rejected for obviousness-type double patenting rejection based on claim 6 of the above-mentioned '142 patent consider in view of the above-cited Jacobson et al. reference.

The foregoing rejections constitute all of the grounds set forth in the October 29, 2004 Official Action for refusing the present application.

In accordance with the present claim amendment, claim 2 has been amended to call for constricting flow of the first fluid material in the first microchannel portion by concomitantly introducing additional fluid into the first microchannel portion from the second and third microchannel portions by applied voltage. Support for phrase "by applied voltage" is provided in the present specification at page 12 lines 17-33, and in particular lines 25-30. Additional terms have been amended in claim 2 in the interest of consistency of usage. Also, in accordance with this amendment, claim 1 has been canceled.

No new matter has been introduced into this application by

reason of the amendment presented herewith.

For the reasons set forth below, applicant respectfully submits that the various prior art rejections set forth in the October 29, 2004 Official Action cannot be maintained in view of the present amendment. These grounds of rejection are, therefore, respectfully traversed.

Considering first the 35 U.S.C. §102(b) rejection of claim 1 based on the Siler et al. reference, this rejection is rendered moot in view of the cancellation of claim 1.

Turning to the 35 U.S.C. §102(b) rejection of claims 2-4 based on the Pentoney et al. reference, the law is well settled that rejections under §102 are proper only when the claimed subject matter is identically disclosed or described in the allegedly anticipatory prior art reference. In re Arkley, 172 U.S.P.Q. 524 (C.C.P.A. 1972).

Applying this rule of law to the present case, the §102(b) rejection of claims 2-4 based on the Pentoney et al. reference cannot be maintained because the subject matter of those claims is nowhere identically disclosed or described in the cited reference. Specifically, the Pentoney et al. reference fails to describe a method of controlling movement of a fluid in a microscale channel in which flow of fluid material in a first microchannel portion is constricted by concomitantly introducing additional fluid into the first microchannel portion from second and third microchannel portions by applied voltage. The only means disclosed in the Pentoney et al. reference for introducing reagent from the connecting capillaries into the main capillary of the CZE microcolumn described therein is by hydrostatic pressure. See page 2627, right hand column, of the Pentoney et al. reference.

Inasmuch as the Pentoney et al. reference plainly fails to identically disclose or describe all of the claim recitations of

applicant's claims 2-4, as discussed above, the §102(b) rejection of claims 2-4 based on the Pentoney et al. reference is untenable and should be withdrawn.

As for the 35 U.S.C. §102(a) rejection of claims 1-5 based on the Jacobson et al. reference, this rejection cannot be maintained, insofar as claims 2-5 are concerned (claim 1 being canceled), in view of the Declaration Under 37 C.F.R. §132 of J. Michael Ramsey which is submitted herewith.

Section 715.01(c) of the Manual of Patent Examining Procedure provides, in relevant part, as follows:

"Co-Authorship

Where the applicant is one of the co-authors of a publication cited against his or her application, he or she may overcome the rejection by filing an affidavit or declaration under 37 C.F.R. §1.131. Alternatively, the applicant may overcome the rejection by filing a specific affidavit or declaration under 37 C.F.R. §1.132 establishing that the article is describing applicant's own work. An affidavit or declaration by applicant alone indicating that applicant is the sole inventor and that the other were merely working under his direction is sufficient to remove the publication as a reference under 35 U.S.C. §102(a). In re Katz, 687 F.2d 450, 215, U.S.P.Q. 14 (C.C.P.A. 1982). [Emphasis added.]"

In view of Dr. Ramsey's Rule 132 declaration and the foregoing authority, the 35 U.S.C. §102(a) rejection of claims 2-5 based on the Jacobson et al. reference is improper and should, therefore, be withdrawn.

It is noted that the Declaration of Dr. Ramsey is unsigned. A copy of the Declaration bearing Dr. Ramsey's signature will be filed as a supplemental response to the October 29, 2004 Official Action. It is further noted in this regard that essentially the same declaration was filed in Dr. Ramsey's

parent and grandparent applications and successfully overcame similar rejections in those cases. A copy of Dr. Ramsey's Declaration from his parent application, U.S. Application No. 09/300,060, is also attached.

Regarding the 35 U.S.C. §103(a) rejection of claims 2-5 based on the combined disclosures of the Moring reference in view of the Pentoney et al. reference, it has long been recognized that all claim recitations must be considered in determining non-obviousness under 35 U.S.C. §103. In re Saether, 181 U.S.P.Q. 36 (C.C.P.A. 1974). Indeed, when the Examiner disregards specification claim recitations that distinguish over the prior art, the rejection is improper and will be overturned. In re Glass, 176 U.S.P.Q. 489 (C.C.P.A. 1973).

In the present case, claim 2 now includes a recitation to the effect that additional fluid is concomitantly introduced into the first microchannel portion from the second and third microchannel portions by applied voltage. This recitation clearly serves to distinguish the present invention over the Moring reference and the Pentoney et al. reference, considered either singly or together. As previously noted in discussing the impropriety of the §102(b) rejection of claims 2-4 based on the Pentoney et al. reference, the sole means disclosed in the Pentoney et al. reference for introducing reagent from the connecting capillaries into the main capillary of the CZE microcolumn described therein is by hydrostatic pressure. Similarly, in the gap junction reactor for fluorescent detection in capillary electrophoresis described in the Moring reference, the introduction of reagent, which occurs only via capillary 519 (See Fig. 6), is also via hydrostatic pressure, as is evident from the discussion of Figure 13 at column 8 of the Moring reference.

This ground of rejection is untenable for the additional

reason that the capillary electrophoresis method described in the Moring reference and that of the Pentoney et al. reference cannot be combined in the manner proposed by the Examiner. The capillary electrophoresis device contemplated by Moring includes a capillary (520) which serves to transport waste liquid from reactor 50 to waste reservoir 69. See column 7, lines 7 and 8 of the Moring reference. The modification of the Moring capillary electrophoresis device proposed by the Examiner would eliminate the waste removal capillary, and replace it with an additional capillary for introducing reagent into the gap junction reactor. In the first place, there is no need for such a modification, in view of the multiple sources of reagent that are provided for in the design of the capillary electrophoresis device as disclosed by Moring (see Fig. 6, Ref. nos. 65 and 68) and the accompanying specification text. Secondly, references cannot properly be combined if the effect would be to destroy the invention on which one of the references is based, which would clearly be the case if the Moring capillary electrophoresis device were modified as suggested by the Examiner. Cf. Ex parte Hartman, 186 U.S.P.Q. 366 (Bd. Apps. 1974).

For the above-stated reasons the combined disclosures of the Moring reference and the Pentoney et al. reference fail to render obvious the method of controlling movement of a fluid in a microscale channel, as now claimed in claims 2-5.

In response to the obviousness-type double patenting rejections of claims 2-5, based variously on the '229 patent and '142 patent, considered alone or in conjunction with the above-cited Jacobson et al. reference, applicant is submitting herewith a terminal disclaimer in proper form, disclaiming the terminal part of any patent granted on the present application which would extend beyond the expiration date of the '229 patent and '142 patent. The law is well settled, as recognized by the Examiner

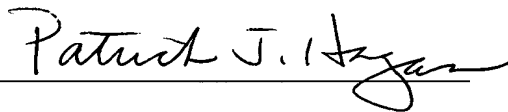
that a timely filed terminal disclaimer under 35 U.S.C. §253, which satisfies the requirements of 37 C.F.R. §1.321(c) will overcome an obviousness-type double patenting rejection.

In view of the terminal disclaimer submitted herewith, which satisfies the provisions of 37 C.F.R. §1.321(c) it is respectfully urged that the obviousness-type double patenting rejections of claims 2-5 set forth in the October 29, 2004 Official Action be withdrawn.

In view of the present amendment, the Declaration of Dr. Ramsey and the terminal disclaimer submitted herewith, and the foregoing remarks, it is respectfully urged that all of the grounds of rejection set forth in the October 29, 2004 Official Action be withdrawn that this application be passed to issue, and such action is earnestly solicited.

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Enclosures:

- Declaration Under 37 C.F.R. §1.132 of J. Michael Ramsey
- Terminal Disclaimer
- Copy of Declaration Under 37 C.F.R. §1.132 of J. Michael Ramsey from U.S. Application No 09/300,060